Appl. No. 10/078,727
Amdt. sent February 16, 2006
Reply to Office Action of September 1, 2005

PATENT

REMARKS/ARGUMENTS

Claims 1-13 remain pending in the instant application. Claims 1, 10, and 11 have been amended. Support for the claims can be found in the specification as originally filed. No new matter has been introduced by virtue of these amendments.

Claims 1, 10, and 11 were objected to because of informalities. The claims have been corrected in accordance with the Examiner's suggestions. Applicants respectfully submit that these claims as amended should be acceptable.

Claims 1-3 and 10-13 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tucker, Patent Number 2002/0016918.

Claim 1 recites, in part, "a reconfigurable secure keyboard ... wherein the keyboard processor retrieves the at least one transformation instruction, executes the at least one transformation instruction, creates a transformed lookup table containing the plurality of values and a plurality of transformed codes, ... receives actual keyboard input, ... and outputs a transformed code ... corresponding to the actual value." An illustrative embodiment of this limitation is the transformed lookup table for encoding each key press of the keyboard, where the computing device which sent the at least one transformation instruction can decode the keys pressed on the keyboard. See also similar limitations recited in independent claims 10-13.

Though the Tucker reference describes a secure hardware input device interface, such as a keyboard, the Tucker reference does not disclose all of the elements of pending claims 1-3 and 10-13. Specifically, the Tucker reference does not disclose that:

- a transformed lookup table is created corresponding to each potential keyboard input; and
- outputting a transformed code corresponding to a pressed key.

The Examiner cited paragraph [0060] of the Tucker reference as disclosing a lookup table. Tucker teaches a polymorphic engine which randomly alters the standard executable code of a compiled application while conserving the application's original operational and functional characteristics. *Paragraph [0044]*. Tucker discloses a lookup table in an embodiment of such a polymorphic engine. As they describe in paragraph [0046]:

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"A random polymorphic engine 15 scans the code (step 115) of the compiled executable 10 to look for predetermined candidate instructions to be replaced with random functionally isomorphic instructions. In one exemplary embodiment, this may be accomplished by randomly selecting an entry in an instruction look-up table. Such a look-up table might comprise, for example, four different options for accomplishing the result of adding two numbers together using the instruction set of a particular CPU."

Fig. 10 shows an example of such a table. Similarly, the cited paragraph [0060] merely cites a lookup table as used in another embodiment of their polymorphic engine. The Tucker lookup table is used to map an original instruction in a compiled code to another instruction. By doing this, Tucker teach that it is not possible to de-compile the code to obtain the original source code. *Paragraph [0015].*

The recited transformed lookup table is used to transform each keyboard input to encode each key pressed on the keyboard. As stated in page 13, lines 13-15 of the specification, "The transformed lookup table may contain a plurality of values representative of all of the plurality of potential keyboard inputs and transformed codes representative of all of the plurality of potential keyboard inputs." On the other hand, the lookup table of the Tucker reference does not disclose creating a transformed lookup table containing values and codes, each value and code corresponding to one of the potential keyboard inputs, but rather discloses transformation of instructions in compiled code. Tucker therefore does not show the recited "reconfigurable secure keyboard ... wherein the keyboard processor retrieves the at least one transformation instruction, executes the at least one transformation instruction, creates a transformed lookup table containing the plurality of values and a plurality of transformed codes, ... receives actual keyboard input, ... and outputs a transformed code ... corresponding to the actual value" of claim 1, and similarly recited limitations in independent claims 10-13.

The Section 102 rejection of the claims is believed to be overcome.

Claims 4-6, 8, and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tucker, in view of Erola, U.S. Patent No. 6,092,133. These claim rejections are overcome as follows.

Claims 4-6, 8, and 9 incorporate the feature of a reconfigurable secure keyboard console configured to create a transformed lookup table containing values and codes, each value and code corresponding to one of the potential keyboard inputs. While the Erola reference discloses a transaction card reader, such as a SIM card, the Erola reference does not teach or suggest that the smart card reader is a reconfigurable secure keyboard console configured to create a transformed lookup table containing values and codes, each value and code corresponding to one of the potential keyboard inputs. For at least the reasons stated above, the Tucker reference also does not disclose that the secure keyboard console is configured to create a transformed lookup table containing values and codes, each value and code corresponding to one of the potential keyboard inputs.

Therefore, the combination of the Tucker and Erola reference fails to teach or suggest each of the elements in claims 4-6, 8, and 9. Applicants respectfully assert that claims 4-6, 8, and 9 are nonobvious and patentable. The Section 103 rejection of the claims is believed to be overcome.

Claim 7 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Tucker, in view of Erola, and in further view of Abreu, Patent Number 2001/0056359. While the Abreu reference discloses a bar code reader, the Abreu reference does not teach or suggest that the bar code reader is a reconfigurable secure keyboard console configured to create a transformed lookup table containing values and codes, each value and code corresponding to one of the potential keyboard inputs.

Therefore, the combination of the Tucker, Erola, and Abreu reference fails to teach or suggest each of the elements in claim 7. Applicants respectfully assert that claim 7 is nonobvious and patentable. The Section 103 rejection of the claim is believed to be overcome.

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CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,
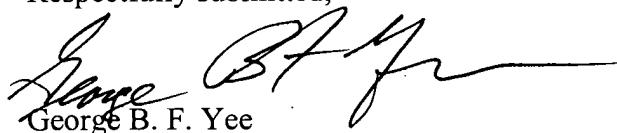
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